USER'S INFORMATION MANUAL

MODELS:
All Residential Multi-position Gas Furnaces (33" Models)

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CONTACT INFORMATION

- Go to website at www.york.com, then click on "Contact Us" and follow the instructions.
- Contact us by mail:

Johnson Controls Unitary Products
Consumer Relations
5005 York Drive
Norman, OK 73069

We recommend that the user read all sections of this manual and keep the manual for future reference.

⚠WARNING

FIRE OR EXPLOSION HAZARD - Failure to follow safety warnings exactly could result in serious injury, death, or property damage.

— **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

— **WHAT TO DO IF YOU SMELL GAS:**

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone (including cell phone) in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

SAFETY

This is a safety alert symbol. When you see this symbol on labels or in manuals, be alert to the potential for personal injury.

Understand and pay particular attention to the signal words **DANGER**, **WARNING**, or **CAUTION**.

DANGER indicates an **imminently** hazardous situation, which, if not avoided, **will result in death or serious injury**.

WARNING indicates a **potentially** hazardous situation, which, if not avoided, **could result in death or serious injury**.

CAUTION indicates a potentially hazardous situation, which, if not avoided **may result in minor or moderate injury.** It is also used to alert against unsafe practices and hazards involving only property damage.

1. The furnace area must be kept clear and free of combustible materials, gasoline and other flammable vapors and liquids.
2. Insulating materials may be combustible. The furnace must be kept free and clear of insulating materials. The furnace area must be examined when installed in an attic or other insulated space or when insulation is added to be sure that the insulation material has been kept away from the furnace.
3. The furnace needs air for combustion in order to operate properly and safely. Do not block or obstruct air openings on the furnace, air openings to the area where the furnace is installed, or spaces around the furnace.
4. Follow the instructions exactly as shown on the OPERATING INSTRUCTION LABEL on the furnace or the "START-UP AND SHUTDOWN INSTRUCTIONS" section of this manual when lighting the furnace or turning the furnace off.
5. Should the gas supply fail to shut off or if overheating occurs, shut off the gas valve to the furnace before shutting off the electrical supply.
6. Do not use this furnace if any part has been under water. A flood-damaged furnace is extremely dangerous. Attempts to use the furnace can result in fire or explosion. A qualified service agency should be contacted to inspect the furnace and replace all gas controls, control system parts, electrical parts that have been wet or the furnace if deemed necessary.
7. NEVER . . . Store flammable materials of any kind near your furnace. Gasoline, solvents, and other volatile liquids should be stored only in approved containers outside your home. These materials vaporize easily and are extremely dangerous.
8. NEVER . . . Store cleaning materials near your furnace. Materials such as bleaches, detergents, powdered cleansers, etc., can cause corrosion of the heat exchangers.
9. NEVER . . . Use the area around your furnace as a storage area for items which could block the normal flow of air. This flow of air is required for ventilation of the various furnace components.

⚠WARNING

FIRE OR EXPLOSION HAZARD

This furnace is designed and approved for use with Natural Gas and (LP) Propane Gas ONLY. DO NOT BURN ANY LIQUID FUEL OR SOLID FUEL IN THIS FURNACE.

Burning any unapproved fuel will result in damage to the furnace heat exchanger, which could result in Fire, Personal Injury, and/or Property Damage.

INSTRUCTIONS FOR EXAMINING THE FURNACE INSTALLATION

It is the owner's responsibility to ensure that an annual inspection of the entire heating portion of the unit is made by a qualified service agency. Examine the furnace as outlined below in steps "1 - 8" before each heating season. Use Figures 1 - 6 for visual reference.

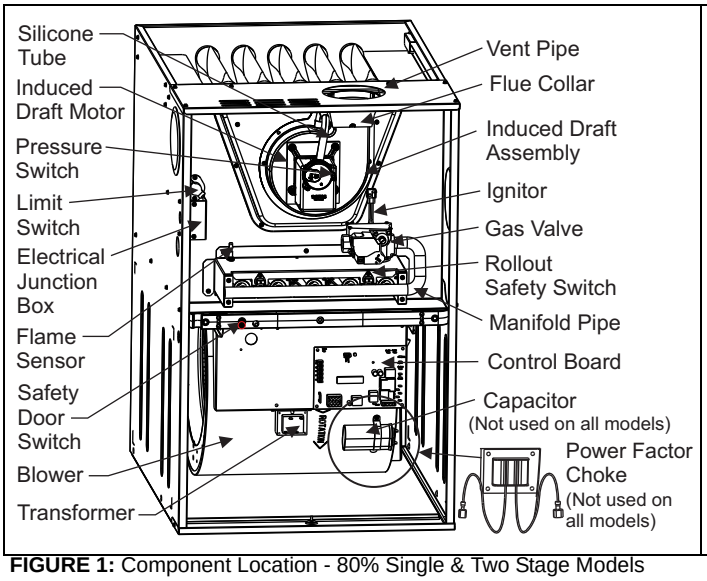

FIGURE 1: Component Location - 80% Single & Two Stage Models

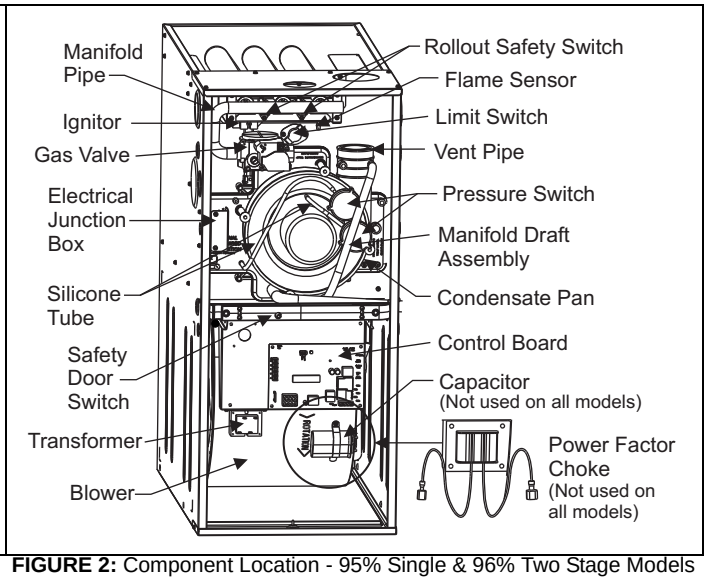

FIGURE 2: Component Location - 95% Single & 96% Two Stage Models

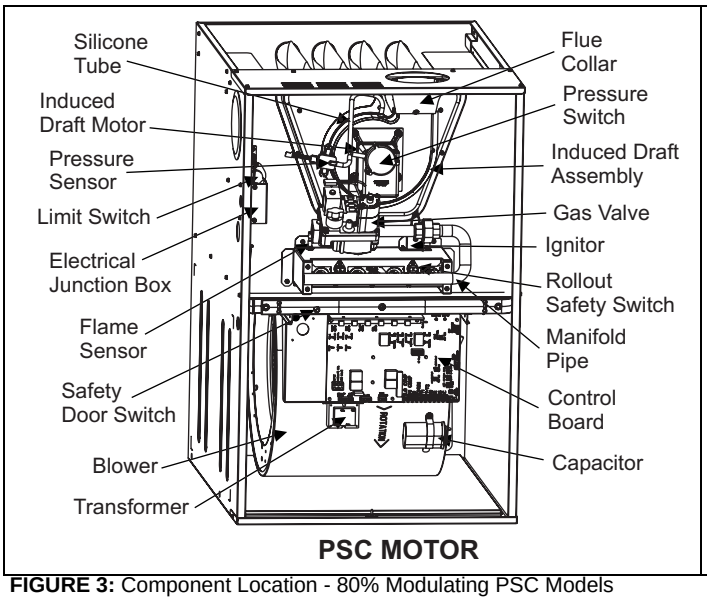

FIGURE 3: Component Location - 80% Modulating PSC Models

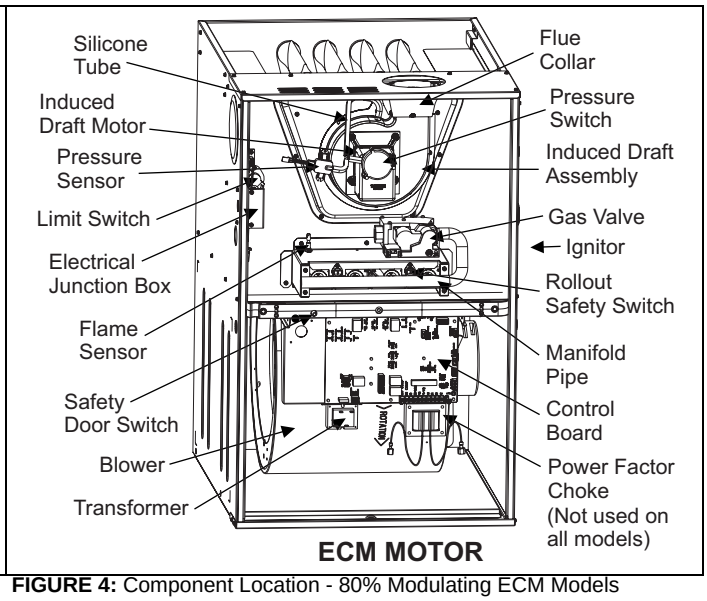

FIGURE 4: Component Location - 80% Modulating ECM Models

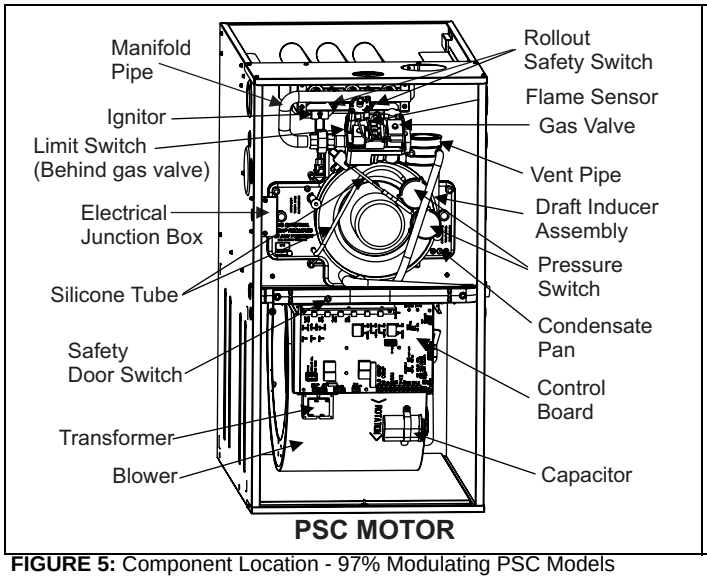

FIGURE 5: Component Location - 97% Modulating PSC Models

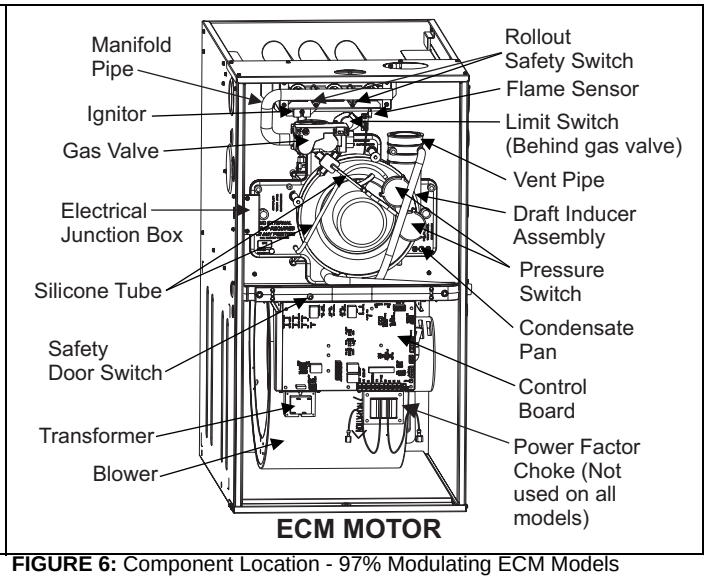

FIGURE 6: Component Location - 97% Modulating ECM Models

1. Examine the heat exchanger, vent pipe, combustion air passages, vent connectors and chimney to be sure they are clear and free of obstructions.
2. Examine the vent pipe making sure it is firmly in place, that it slopes slightly upward and is physically sound without holes and all of the connections are secure.
3. Examine the return-air duct connections to make sure they are physically sound, sealed to the furnace casing, and the ducts terminate outside the space containing the furnace.
4. Examine the furnace casing making sure the physical support is sound without sagging, cracks or gaps. Examine the furnace base making sure it is physically sound without cracks, gaps or sagging and has a good seal.
5. Examine the furnace casing for obvious signs of deterioration.
6. Examine the burner flames to make sure they are in good adjustment. Refer to the pictorial sketch shown in Figure 7 as a comparison to the actual flame.

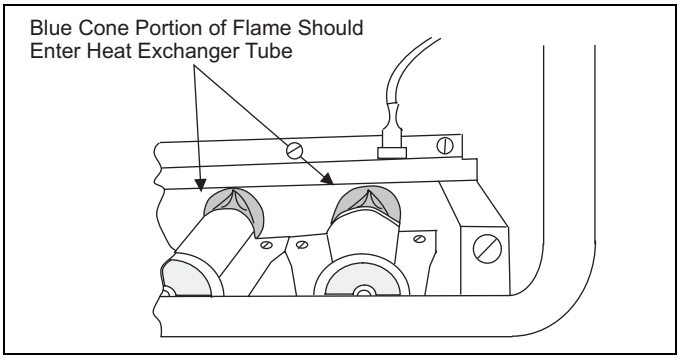

FIGURE 7: Burner Flame Drawing (Upflow Configuration Shown)

7. Examine and replace external air filters as needed to make sure they are not blocked, and proper airflow is provided to the furnace.
8. Examine any installed accessories or system components such as evaporator coils to insure proper operation, drainage of condensate, and that there is no water leakage or damage to the furnace or any components.

START-UP AND SHUTDOWN INSTRUCTIONS

Read the Instructions Below Before Trying to Start the Furnace!

⚠WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury, and/or loss of life.

HOW YOUR GAS FURNACE WORKS

Your furnace is a very easy appliance to take for granted. Season after season, it sits there in your home, keeping you warm and comfortable. For this reason, you may never have given much thought to the way your furnace operates. In order to get the safest and most efficient operation from your furnace, you should understand how your furnace does its job.

When you set your thermostat to provide more heat in your home, you are starting the heating cycle of the furnace. First, the inducer motor starts to purge the heat exchanger of any remaining gases. Next, the hot surface ignitor glows and after a warm-up period the gas valve opens and ignition occurs. A short time later, the blower starts and distributes the warm air throughout the home. When the temperature setting on your thermostat is reached, the gas valve closes, the main burners are turned off, and the blower continues to run until the remaining warm air in the system is distributed. When the blower stops, the heating cycle has ended.

1. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
2. BEFORE OPERATING; smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
3. Use only your hand to push the gas control switch to the ON position. Never use tools. If the switch will not operate by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
4. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control, which has been under water.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above for your protection.
2. Set the thermostat to the lowest setting in the heat mode.
3. Turn off all electric power to the appliance.
4. Remove furnace burner access panel/door.
5. Move gas control switch to the OFF position. Do not force. See Figures 9-11.
6. Wait five (5) minutes to clear out any gas. If you then smell gas, **STOP!** Follow "B" in the safety information above. If you don't smell gas, go to next step.
7. Move gas control switch to the ON position. Do not force. See Figures 9-11.
8. Replace furnace burner access panel/door.
9. Turn on all electric power to the appliance.
10. Set thermostat to the desired setting. Burner will light, which may take 30-60 seconds.
11. After three (3) trials for ignition, if the appliance will not operate follow the instructions, "TO TURN OFF THE APPLIANCE" and call your service technician or gas supplier.

TO TURN OFF THE APPLIANCE

1. Set the thermostat to lowest setting in heating mode.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove furnace burner access panel/door.
4. Move gas control switch to the "OFF" position. See Figures 9-11.
5. Replace furnace burner access panel/door.

⚠WARNING

Should overheating occur, or the gas valve fail to shut off, turn the external manual gas valve in the gas supply line to the furnace to the "off" position and let the furnace cool off before shutting off the electrical power supply.

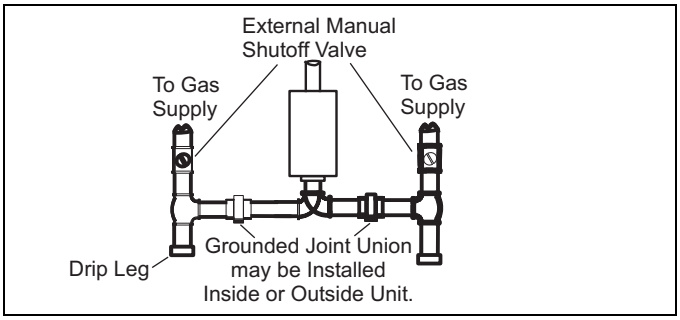

FIGURE 8: Gas Piping

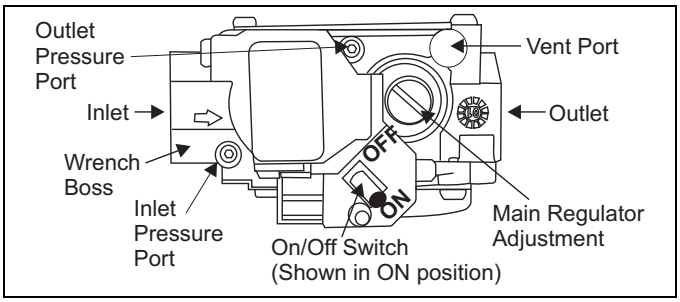

FIGURE 9: Single Stage Gas Valve

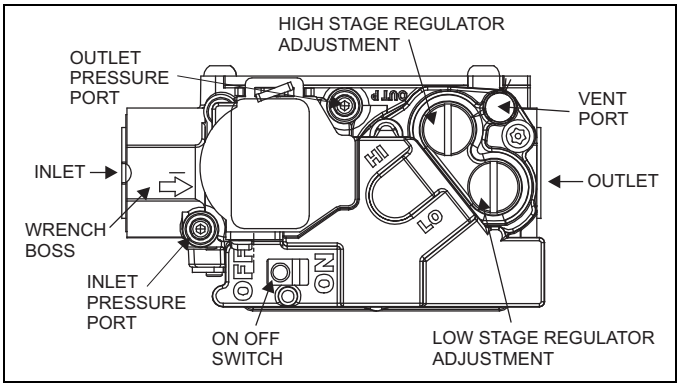

FIGURE 10: Two-Stage Gas Valve

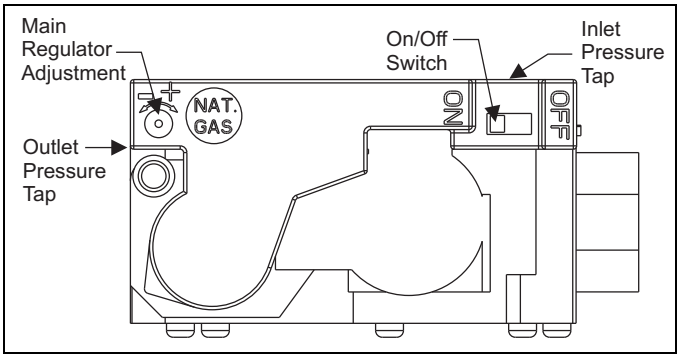

FIGURE 11: Modulating Gas Valve

FURNACE MAINTENANCE - USER INFORMATION

⚠WARNING

Before proceeding, be sure the area is well ventilated. Turn the thermostat OFF. If the blower is running, wait until it stops automatically. Turn OFF the gas and electrical power supplies to the furnace. Check all metal parts and surfaces to be sure they have cooled to room temperature before you begin.

EXTERNAL AIR FILTERS

Filters used with this furnace must be installed external to the furnace casing. DO NOT attempt to install filters inside the furnace cabinet.

Some installations may have the air filter in a rack attached to the casing of the furnace or placed in the return air duct. If the filter location or replacement process is not obvious, contact your installer or service technician for assistance.

Every time the external air filters are changed the following items should be visually inspected:

- Check combustion air and vent pipe for blockage or leakage.
- Check all components to be sure they are in good condition and that there are no obvious signs of deterioration.
- Check the drain lines to make sure there are no cracks or leaks.
- Check for dirt or lint on any surfaces or on components. Do not try to clean any of the surfaces or components. Cleaning of the furnace and its components must be done by a qualified service professional.

If during the inspection of your furnace, you find any of the following conditions:

- Excessive amounts of dust and lint on components.
- Damaged or deteriorated components or surfaces.
- Leaks or blockage in the vent pipe passages.
- Water on any surface inside or outside of the furnace.

Do not operate the furnace, call a certified dealer or servicing contractor to check or clean your furnace, or for more information if you have questions about the operation of your furnace.

If all components appear to be in good operating condition, replace the furnace access panels/doors. Turn ON the gas and electrical power supplies to the furnace, and set thermostat to the desired temperature.

How to Clean your Filter

High-velocity filters may be cleaned with a vacuum cleaner or washed with a garden hose. Be sure to shake off excess water and allow filter to completely dry before re-installing the filter.

Replace throw away filter(s) with the same size new filter(s). Throw away filter(s) may be replaced with cleanable filter(s) at this time.

BLOWER CARE

Even with good filters properly in place, blower wheels and motors will become dust laden after months of operation. The entire blower assembly should be inspected annually. This service must be performed by a qualified service agency.

NOTE: The spring-loaded safety cut-off switch, mounted at the blower deck will automatically cut off the electrical power supply to the furnace when the furnace blower access panel/door is removed. As a safety precaution, all electrical power and the gas supply to the furnace should be turned off before servicing.

⚠WARNING

Make sure you DO NOT move the clip on weight on the indoor fan wheel when cleaning the wheel. This weight is used to balance the wheel. Moving the weight will cause the fan wheel to vibrate.

MOTOR LUBRICATION

The motors in these furnaces are permanently lubricated, and do not require periodic oiling.

SERVICE INFORMATION

TROUBLESHOOTING PROBLEMS

If your furnace is not operating correctly, the following visual checks should be made before contacting your local contractor, dealer, or service provider.

1. Check that electrical power to the furnace is turned on.
2. Check that the manual gas shut-off valve in the gas piping supply is turned to the ON position. Refer to Figure 8.
3. Check that the ON/OFF switch on the gas valve is turned to the ON position. Refer to Figures 9, 10 or 11.
4. Check that the furnace blower access panel/door is correctly positioned. The electrical power supply will be cut off if this door is removed.

FURNACE CONTROL DIAGNOSTICS

The furnace has built-in, self-diagnostic capability. If a system problem occurs, a blinking LED shows a fault code. The LED can flash red, green or amber to indicate various conditions. It is located behind a clear view port in the blower compartment door.

The control continuously monitors its own operation and the operation of the system. If a failure occurs, the LED will indicate the failure code. If the failure is internal to the control, the light will stay on continuously. In this case, the entire control should be replaced, as the control is not field repairable.

Flash sequence codes 1 through 10 are as follows: LED will turn ON for 1/4 second and OFF for 1/4 second. This pattern will be repeated the number of times equal to the code. For example, six ON flashes equals a number 6 fault code. All flash code sequences are broken by a 2 second OFF period.

SLOW GREEN FLASH: Normal operation.

DOUBLE AMBER FLASH: Normal heating operation - Modulating Furnace Models Only

SLOW AMBER FLASH: Normal operation with call for heat.

RAPID RED FLASHES: There is a problem with the operation of this furnace. Contact your local dealer, contractor or service provider.

FURNACE MAINTENANCE - DEALER/CONTRACTOR

The furnace should be cleaned and adjusted by a certified dealer or qualified service contractor once a year or before the start of every heating season. The following items must be cleaned and serviced or replaced if there are signs of deterioration.

1. The vent terminal.
2. The furnace vent and combustion air intake passageways. Should it be necessary to service the vent/air intake system, the manufacturer recommends this service be conducted by a qualified service agency. The operation of this appliance requires the reassembly and resealing of the vent/air intake system.
3. The furnace burners, ignitor and flame sensor.
4. The condensate collection and disposal system. If any disassembly of components containing flue or vent gases is required, a qualified service agency must perform the service.
5. Heat exchanger assembly.
6. Induced draft motor assembly.

REPLACEMENT PARTS LIST

All components, assemblies, accessories, and replacement parts for this furnace are available through qualified service agencies. It is not recommended that the user purchase, install, or replace any components of this furnace. Contact your local contactor, dealer, or service provider for additional information.

WIRING DIAGRAM

The unit wiring diagram may be found on the inside of one of the access panels on the furnace. It is intended for reference only. If service is required, contact your local contactor, dealer, or service provider.

NOTES

Limited Warranty

Residential Furnaces

WARRANTY TERMS: Johnson Controls Unitary Products ("Company") warrants this product to be free from defects in factory workmanship and material under normal use and service and will at its option, repair or replace defective parts without charge, subject to the exclusions below and according to the terms outlined in this warranty. Company reserves the right, at its sole discretion, to provide an equivalent complete replacement unit in place of repair parts. Alternatively, Company may at its option, offer a replacement price allowance to be applied toward the purchase of a new unit offered by Company. The exact allowance amount will be determined at the discretion of Company, based upon availability, age of existing equipment and current market conditions, but excluding items as ductwork, wiring, piping, and installation costs. The warranty period for obtaining repaired or replacement parts, or an allowance shall not extend beyond the original warranty period as stated below. In addition, if a replacement unit is provided by Company, the warranty period for the complete replacement unit is limited to the remainder of the original warranty period.

This warranty covers only equipment described by the Product Model Number and Unit Serial Number on the equipment or listed on the Warranty Registration Card, and applies only to products installed in the United States, Canada, or Puerto Rico. Company shall have no responsibility for installation, service, shipping, handling or other costs or charges, except as otherwise provided in this warranty. Tampering, altering, defacing, or removing the product serial number will serve to void this warranty. This warranty extends only to the original consumer purchaser and is nontransferable.

For this warranty to apply, the product must be installed according to Company recommendations and specifications, and in accordance with all local, state, and national codes; and the product or residence must not be removed from its place of original installation. This warranty does not apply to any unit sold over the Internet, by telephone or other electronic means unless the dealer that buys or sells a unit over the Internet, by telephone or other electronic means also installs the unit. In the absence of a recorded Warranty Registration Card, the warranty period will begin upon product shipment from Company. If you are unaware of the effective warranty date, contact Company at (877) 874-7378 or **www.upgproductregistration.com**.

ADDITIONAL CONDITIONS FOR HEAT EXCHANGER WARRANTY: This warranty covers heat exchangers (primary and/or secondary), only if:

1. The product has not been operated with an input rate in excess of the rating plate attached to the product.
2. The product has not been allowed to operate without the use of the proper automatic limit control for maximum warm air temperature and/or without adequate air circulation.
3. The product is installed so that combustion air is not contaminated by compounds of chlorine, fluorine, or other damaging chemical vapors.
4. The product is installed such that the heat exchangers are not exposed to return air temperatures below stated ratings.

CONDITIONAL UNIT REPLACEMENT WARRANTY: In addition to the Limited Parts Warranty, a Conditional Unit Replacement Option Warranty applies for certain models as noted below. If the Heat Exchanger (HX) assembly (primary and/or secondary) fails due a covered defect during the applicable Residential Unit Replacement Period shown below, the Company shall provide a replacement model, or if an exact replacement model is not available, an equivalent unit will be provided (the "Unit Replacement Option"). This Unit Replacement Option is available to the original purchaser in owner-occupied single family residential applications in the original location only, and is non-transferrable. **Registration is required as noted below for this option.** The warranty for any replacement unit will be for the remaining period of the original equipment warranty. Company reserves the right to review and inspect any failed heat exchanger assemblies, and may required replaced parts to be returned for verification of claims.

WARRANTY PERIOD: The warranty period in years, depending on the part, is as shown in the chart below.

Product Tier	Furnace Product Model Family	Heat Exchanger			Parts
		Residential Unit Replacement Option	HX Replacement in Residential Applications	HX Replacement in Non-Residential Applications	
OTC	RGF1L*P, RGF1L*E	NA	20 years	10 years	5 or 10 years*
OTC	RG9F19*P, RGF10*E	NA	Lifetime*	10 years	5 or 10 years*
Standard	TG8S, TGLS	NA	20 years	10 years	5 or 10 years*
Standard	TG9S	NA	Lifetime*	10 years	5 or 10 years*
LX	TM8X, TMLX, TM8T, TMLT, TM8V, TMLV	5 years*	20 years	10 years	5 or 10 years*
LX	TM9V, TM9T, TM9E, TM9X, TM9M	5 years*	Lifetime*	10 years	5 or 10 years*
Premium	YPLC, CPLC, LPLC, TPLC	10 years*	20 years	10 years	5 or 10 years*
Premium	YP9C, CP9C, LP9C, TP9C	10 years*	Lifetime*	10 years	5 or 10 years*

NOTE: * To qualify for Extended 10-year parts warranty, the Lifetime heat exchanger warranty, and/or the Unit Replacement Option, the unit must be registered online at **www.upgproductregistration.com** within 90 days of installation for replacement units or within 90 days of closing for new home construction. Unit Replacement Option is only related to Heat Exchanger Failure during specified timeframe in residential applications only. Non-residential applications are not eligible for unit replacements. In some states or provinces, registration is not required, but proof of installation is required. If not registered, standard warranty terms (5 years for parts, 20 years for heat exchangers) apply.

FOR WARRANTY SERVICE OR REPAIR: Notify the Installing Dealer or a Participating Dealer, preferably in writing, as soon as possible after you have discovered the problem. Be sure to include the Product Model Number, Unit Serial Number, Installation Date, and a description of the problem. You may find the Installing Dealer's name on this page or on the equipment, and you can locate Participating Dealers online. If a Dealer response is not received within a reasonable amount of time, notify Company at: Johnson Controls Unitary Products, Consumer Relations, 5005 York Drive, Norman, OK 73069 or by telephone at (877) 874-7378. All warranty service or repair will be performed during regular business hours, Monday through Friday 9:00 AM - 5:00 PM. Service requests sent to Company without prior Dealer contact will be referred back to a Participating Dealer. Because this process takes time, it is in the best interest of the Consumer to contact a Participating Dealer directly.

FOR PRODUCT REGISTRATION: For your benefit and protection, register your product with Company promptly after installation. This will initiate the warranty period and allow us to contact you, should it become necessary. You can register your product by returning the Warranty Registration Card on the back page of this Booklet or online at **www.upgproductregistration.com**.

Product Model Number: _____ **Installation Date:** _____

Unit Serial Number: _____ **Installing Dealer:** _____

MAINTENANCE: Company strongly recommends regular periodic preventive maintenance on this equipment. The person most familiar with the equipment in your HVAC system is a Participating Dealer, who can ensure that your maintenance program meets the Company Warranty conditions, maximize the equipment efficiency, and service your unit within the mandated guidelines. For additional buyer protection, Residential Home Comfort Plans are available from a Participating Dealer. These plans provide you with additional years of warranty service protection including labor charges. Home Comfort Plans must be purchased within one (1) year from the date the equipment was installed.

EXCLUSIONS: This warranty does not cover any of the following:

1. Shipping, labor, or material charges or damages resulting from transportation, installation, or servicing.
2. Damage or repairs required as a consequence of mishandling, faulty installation, misapplication, abuse, improper servicing, improper operation, or unauthorized alteration.
3. Damages or failure to start resulting from improper voltage conditions, blown fuses, open circuit breakers, or other inadequacy or interruption of electrical service or fuel supply.
4. Fuses, either internal or external to the product.
5. Labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of defective/replacement parts.
6. Products removed from their original location for reinstallation purposes.
7. Damages resulting from accident, abuse, fire, flood, alteration, or acts of God.
8. Damages resulting from use of the product in a corrosive atmosphere.
9. Normal maintenance costs are not covered.
10. Damages resulting from failure to perform normal maintenance as shown in installation and servicing instructions or owner's manual.
11. Cleaning or replacement of filters, nozzles, or orifices.
12. Damages resulting from operation with inadequate supply of air or from damages resulting from failure to properly and regularly clean air side of condenser and evaporator.
13. Damages resulting from freezing of condensate water or improper drainage of condensate from the furnace.
14. Damages caused by improper parts, components or accessories not suitable for use in or with the unit. For a list of parts that are known to be compatible, reference equipment repair parts list, contact a Participating Dealer for assistance, or call 1-877-874-7378.
15. Electricity or fuel costs or increases in fuel or electric costs, for any reason including additional or unusual use of supplemental heat.

This warranty is in lieu of all other express warranties. All implied warranties, including the implied warranty of merchantability and fitness for a particular purpose are limited in duration to the actual warranty period applicable to the part. Some states do not allow the disclaimer of implied warranties, so the above disclaimer may not apply to you. In addition, some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. In no event, whether as a result of breach of warranty or contract, tort (including negligence), strict liability, or otherwise, shall Company be liable for special, incidental, or consequential damages or expenses, including but not limited to loss of use of the equipment or associated equipment, lost revenues or profits, cost of substitute equipment, or cost of fuel or electricity.

The above limitations shall inure to the benefit of Company's suppliers and subcontractors. The above limitation on consequential damages shall not apply to injuries to persons in the case of consumer goods. Company does not assume, or authorize any other person to assume for Company, any other liability for the sale of this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

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Supersedes: 1010352-UUM-E-0814

York International Corp.
5005 York Drive
Norman, OK 73069